Treatment of Chronic Osteomyelitis (COM): Rwanda experience of in situ sterile Plaster of Paris (POP) pellets containing antibiotics

I. Nyaruhirira 1, E. Nsengiyumva 2

1 National University of Rwanda, Kigali, Rwanda
2 Centre Hospitalier Universitaire de Kigali, Kigali, Rwanda

Background: COM constitutes a serious public health burden in developing countries. Diagnosis of acute OM is often missed in primary care and patients are referred at a late stage of COM in referral hospitals, thus requiring heavy, long and costly treatment. Treatment in many developing countries is not standardized and patients’ outcomes are often poor.

Methods: From June 2000 to March 2001, 67 patients diagnosed with COM at the University Teaching Hospital of Kigali, Rwanda were placed into two treatment groups:

- Group 1 (34 patients) received “classic treatment,” sequestrectomy, surgical toilet, and closing of the wound over sucking drains. Patients also received I.V. antibiotics until the wound healed and then received wide spectrum oral antibiotics until normalization of the ESR.
- Group 2 (33 patients) were also treated by sequestrectomy, surgical toilet, and closing of the wound over sucking drains. The latest was given 24 hours I.V. antibiotics as prophylaxis, received in situ sterile POP pellets containing fusidic acid plus oxacillin or amoxicillin. All patients were discharged when the wound was closed and fistula dried. Patients were followed post-operatively after 20 months.

Results: Of all patients, 37% were referred by a health professional, 21% had self-medicated, and 42% were first treated by a traditional practitioner.

The majority of cases were misdiagnosed as acute osteomyelitis (Group 1, n=22; Group 2, n=27).

Aureus Staphylococcus was the most frequent germ (Group 1, n=22; Group 2, n=22): 39% were oxacillin resistant; 5% were fusidic acid resistant; none were vancomycin resistant.

Hospital stay was significantly (p=.0017) longer for Group 1 (32 days) compared to Group 2 (18 days) patients.

Wound healing was significantly (p=.0008) longer for Group 1 (48 days) compared to Group 2 (36 days) patients.

At 20-month follow-up, treatment failures and infection recurrence was significantly (p=.0017) higher for Group 1 (n=15) compared to Group 2 (n=6).

Excellent results (wound healing and fistula dried) were obtained in 58% of Group 1 patients compared to 87% of Group 2 patients.

Conclusion: In situ sterile POP pellets containing antibiotics is an effective and cost-efficient alternative treatment for COM and is suitable for resource poor healthcare settings.

doi:10.1016/j.ijid.2010.02.1623